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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/089,514	03/29/2002	Koji Yanai	2002_0451A	7814

7590 10/07/2004  
Wenderoth Lind & Ponack  
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EXAMINER

KERR, KATHLEEN M

ART UNIT PAPER NUMBER

1652

DATE MAILED: 10/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

### Application No.

10/089,514

### Applicant(s)

YANAI ET AL.

### Examiner

Kathleen M. Kerr, Ph.D.

### Art Unit

1652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 July 2002.
- 2a) ☐ This action is **FINAL**.      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-31 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Application Status*

1. Claims 1-31 are pending in the instant application as originally filed.

### *Restriction*

2. Restriction is required under 35 U.S.C. § 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 C.F.R. § 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-22 and 26-27, drawn to transformants with 4-amino-4-deoxychorismic acid synthase (SEQ ID NO:1) and related products.

Group II, claim(s) 1-22 and 28-29, drawn to transformants with 4-amino-4-deoxychorismic acid mutase (SEQ ID NO:3) and related products.

Group III, claim(s) 1-22 and 30-31, drawn to transformants with 4-amino-4-deoxyphenic acid dehydrogenase (SEQ ID NO:5) and related products.

Group IV, claim(s) 23-25, drawn to methods of making metabolites using 4-amino-4-deoxychorismic acid synthase.

Group V, claim(s) 23-25, drawn to methods of making metabolites using 4-amino-4-deoxychorismic acid mutase.

Group VI, claim(s) 23-25, drawn to methods of making metabolites using 4-amino-4-deoxyphenic acid dehydrogenase.

3. The Examiner notes that Claims 1-7 can be a transformant with any one of the DNAs of Groups I-III and Claims 8-22 are a combination of Groups I-III since they require all three DNAs

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be present in the transformant. If one of Groups I-III, Claims 1-22 will be examined to the extent they read on the elected invention.

4. The inventions listed as Groups I-VI do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: the genus encompassed by Claim 1 does not have a special technical feature because it does not contribute to the prior art since the prior art teaches a species of the claimed genus.

Blanc *et al.* (see search report) teach transforming SP210::pVRC414-1, a papA mutant that does not make p-aminobenzoic acid (PABA), with pVRC429, which contains the papA gene, and producing PABA (see page 195, left column). The papa gene encodes 4-amino-4-deoxychorismic acid synthase (see Fig. 4), and PABA is a secondary metabolite having a benzene ring substituted at the para position. Thus, the technical feature of Claim 1 is not a special technical feature since the prior art teaches it (Claim 1, as a genus, does not contribute to the prior art as required to be a special technical feature).

The technical feature of Group I is the synthase sequence. This technical feature is not shared with Group II, requiring the mutase sequence, or with Group III, requiring the dehydrogenase sequence.

While the technical feature of Group I is shared with Group IV, these inventions are to different categories (product and processes), thus, separable in the absence of unity of invention for Group I. The same is true of Groups II and V and Groups III and VI. The technical feature of Group I is not shared with Groups V and VI; thus, these Groups are different.

***Election***

5. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 C.F.R. § 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 C.F.R. § 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 C.F.R. § 1.48(b) and by the fee required under 37 C.F.R. § 1.17(i).

***Examiner's Comments***

6. By virtue of the Examiner's cursory view of the pending claims for purposes of restriction only, improper multiple dependencies were noted in Claims 10-22. The Examiner recommends rectifying this in response to the instant Office action. This is NOT an objection to the claims, but merely a recommendation to facilitate prosecution.

***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kathleen M Kerr whose telephone number is (571) 272-0931. The examiner can normally be reached on Monday through Friday, from 9:00am to 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathupura Achutamurthy can be reached on (571) 272-0928. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kathleen M Kerr  
Primary Examiner  
Art Unit 1652

October 1, 2004